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GP fundholding and the costs of prescribing: further results

David K. Whynes, Darrin L. Baines and Keith H. Tolley

Abstract

Background An earlier paper published in this journal suggested that fundholding practices in Lincolnshire had managed to constrain the growth in their prescribing costs more successfully than had non-fundholders, largely on the basis of restricting the number of items prescribed per patient. At that time, insufficient data were available to explore the impact of a change in status from non-fundholding to fundholding on prescribing behaviour.

Method Time-series prescribing data for the fourth-wave of Lincolnshire fundholders are analysed, and comparisons are made between this group, non-fundholders and the fundholders of the earlier waves.

Results In their first year of fundholding, fourth-wave practices adopted the prescribing strategies employed previously by existing fundholders, namely, reductions in the number of items prescribed per patient and substantial increases in generic prescribing. The hypothesis that prospective fundholders inflate their prescribing budget before attaining fundholding status is not generally supported by the Lincolnshire data. Evidence is presented which suggests that the prescribing cost economies accruing to fundholding status may be short term.

Conclusions With the acquisition of fundholding status, the structure of incentives facing practices changes. Our results suggest that, with respect to prescribing, practices adjust rapidly to the new incentive structure.

Keywords: cost, fundholding, general practice, prescribing

Introduction

Between 1983 and 1993, there was a 32 per cent growth in the number of National Health Service (NHS) prescriptions dispensed in the United Kingdom. The drug costs entailed by prescribing currently approach £35 billion, or around 11 per cent of total NHS spending.[1] The high cost of prescribing has been a source of concern for the Government for some time and a variety of policy measures have been introduced in an effort to control drug costs. These have included the introduction of the 'limited list', which constrains general practitioners' powers of prescribing drugs in certain therapeutic categories, the provision of practice-specific information on prescribing costs and encouragement to develop practice formularies. As a result of the 1990 National Health Services Act, fundholding was introduced into general practice in 1991 and, because fundholders received a pre-specified budget from which prescribing costs were to be met, it was expected that the requirements to observe financial discipline would encourage tighter control over prescribing costs in such practices.[2] The extent to which this theory is borne out in practice remains under review, although the initial evidence appeared to favour the theory.[3,4]

In an earlier paper published in this journal,[5] we analysed prescribing cost data for the 105 general practices in Lincolnshire over the fiscal years 1990–1991 (the year before the introduction of the fundholding scheme) to 1993–1994 (up to and including the third wave of recruitment into fundholding). We concluded that the first three waves of fundholders had maintained significantly lower prescribing costs per patient than non-fundholders throughout the period, prescribing costs being measured as net ingredient cost (NIC), i.e. the cost to the NHS of the drugs prescribed, excluding dispensing fees and any discounts. Fundholders, moreover, were more successful in meeting their prescribing budget targets. The differences in prescribing costs could not be attributed to differences in the characteristics of patients which the practices served but appeared to be influenced by organization and prescribing management structures. Fundholders prescribed a significantly higher proportion of their items as generics, which are conventionally assumed to be cheaper than the branded equivalents,[2] although fundholders' relative cost advantage appeared to have been secured principally by prescribing significantly fewer items per patient per annum for the majority of drug chapters.

Broadly speaking, this earlier paper examined the issue of prescribing cost differences in a static sense, i.e. by comparing the fundholders in the first three waves with the existing non-fundholders. Although we established that, from the time of the introduction of the fundholding scheme, the 19 Lincolnshire

Department of Economics, University of Nottingham, Nottingham NG7 2RD.

David K. Whynes, Reader in Health Economics

Darrin L. Baines, Research Student

Nottingham School of Public Health, University Hospital, Nottingham NG7 2UH.

Keith H. Tolley, Lecturer in Health Economics

Address correspondence to David K. Whynes.

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fundholders had maintained lower prescribing costs in comparison with the 11 practices which were eligible to join but chose not to do so, there were grounds for believing that these early-wave fundholders were a group self-selected on the basis of existing good performances and capabilities in this respect. At the time, analysis on a wave-by-wave basis was precluded by small sample sizes: 2, 6 and 11 practices joined in waves 1, 2 and 3, respectively. We were therefore unable to address the important issue of how a change in status from non-fundholding to fundholding influenced subsequent prescribing behaviour. However, the availability of data on the prescribing costs of the numerically large fourth wave of fundholders in Lincolnshire now makes such an analysis possible.

The analysis proceeds by comparing prescribing variables for three groups of practices, namely, those who became fundholders in one of the first three waves, fourth-wave fundholders and remaining non-fundholders. Normality testing of the variables, using Lillefors' modification of the Kolmogorov–Smirnov one-sample test,[6] revealed significant departures from the normal distribution in many cases. Accordingly, we employed the non-parametric Kruskal–Wallis one-way analysis of variance method to test for significant differences, using the method of multiple comparisons to assess significance for all pairs of the three groups.[7] All differences reported as significant are so at the 5 per cent level or better.

Prescribing costs for the fourth wave

Figure 1 displays net ingredient costs per patient for the three groups of Lincolnshire practices, starting from the fiscal year before the introduction of the fundholding scheme. For each of the first four years, i.e. up to and including the fiscal year ending 1994, the Kruskal–Wallis test indicates that the prescribing costs of the fourth-wave fundholders were not significantly different from those of non-fundholders. Both of these groups' costs, however, were significantly different from those of the fundholders in waves 1–3 in each of the four years. For the fiscal year ending 1995, however, the costs of fourth-wave fundholders did not differ significantly from those of the fundholders in waves 1–3, yet both costs differed significantly from those of the remaining non-fundholders. The fiscal year 1994–1995, of course, represents the first year of fundholding for the fourth wave. In their first year of fundholding, therefore, the prescribing costs of the fourth-wave fundholders diverged from that of the remaining non-fundholders and converged towards that of the existing fundholders.

Table 1 provides evidence as to how this change was effected. The table presents data for year-to-year mean percentage changes in three key prescribing parameters, namely, net ingredient costs, number of items prescribed and proportion of items prescribed as generic medicines. For the first three of the four inter-year comparisons, no significant difference in the changes can be detected with one exception: between the fiscal years ending 1993 and 1994, the growth in prescribing cost per patient was significantly lower for the fundholders of waves 1–3 than for the other two groups. For the final inter-year comparison, however, substantive differences emerge. The fourth-wave fundholders achieved a negative growth in their prescribing costs in their first fundholding year, in comparison with positive growths amongst the other two groups. Likewise, the change in the number of items prescribed per patient fell for this group, in contrast to the rises

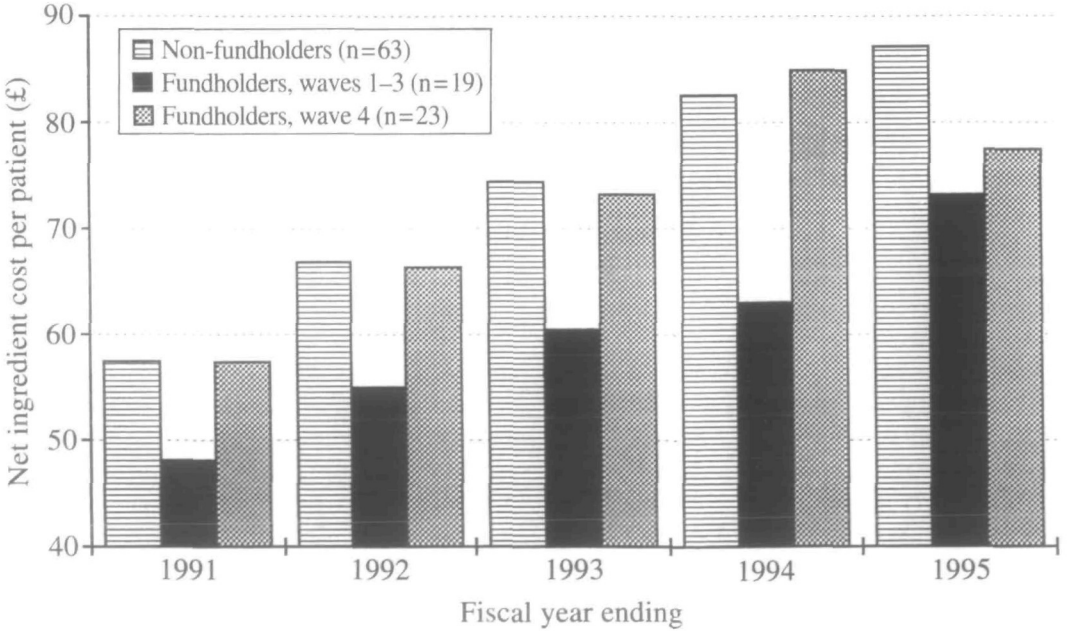

Figure 1 Net ingredient cost per patient, 1990–1991 to 1994–1995.

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Table 1 Mean changes in prescribing over time (%)

	Fiscal years			
	1990/1–1991/2	1991/2–1992/3	1992/3–1993/4	1993/4–1994/5
Change in net ingredient cost per patient				
Non-fundholders [1]	16.91	11.8	11.15	6.21
Fundholders, waves 1–3 [2]	14.3	10.6	4.82	16.18
Fundholders, wave 4 [3]	16.22	11.26	17.25	−4.51
Significant differences	nsd	nsd	[1]d[2]; [2]d[3]	all pairs
Change in items prescribed per patient				
Non-fundholders [1]	5.57	3.58	4.92	1.52
Fundholders, waves 1–3 [2]	5.38	4 72	3.6	3
Fundholders, wave 4 [3]	3.39	1.71	6.93	−1.88
Significant differences	nsd	nsd	nsd	[1]d[3]; [2]d[3]
Change in percentage of items prescribed as generics				
Non-fundholders [1]	4.37	2 6	4.64	5.4
Fundholders, waves 1–3 [2]	1.61	5.04	11.82	5.98
Fundholders, wave 4 [3]	4.9	4.87	5.66	18.99
Significant differences	nsd	nsd	nsd	[1]d[3]; [2]d[3]

experienced by the other two groups. Finally, the rate of growth in generic prescribing was significantly higher for the fourth-wave fundholders.

The above data demonstrate that, with the acquisition of fundholding status, fourth-wave practices were able to lower their prescribing costs to the level of that of the existing fundholders within the space of one year. It would seem evident that this was accomplished, at least in part, by their adoption of the prescribing management strategies (higher rates of generic prescribing and a reduction in the number of items per patient) already in use on the part of the existing fundholding practices. This being the case, the prescribing management strategies appear to have taken effect remarkably quickly, and this observation itself merits several questions.

Discussion

The rapid movement of fourth-wave fundholders towards the prescribing cost position typical of existing fundholders is consistent with several explanations. First, does there exist some set of features inherent in fundholding status *per se* which, once such a status is attained, facilitates a rapid redirection of prescribing strategy? Second, was it the case that these practices had actually been capable of effecting cost reductions before fundholding, although the strategy was not optimal without the acquisition of the status? Third, does at least part of the explanation for prescribing cost convergence between fourth-wave and early-wave fundholders lie in the fact that the latter experienced a particularly large rise in NIC per patient during 1994–1995? As indicated in Table 1, the rate of growth of prescribing costs of early-wave fundholders had been steadily falling before that year.

In attempting to answer these questions, let us begin by considering the economic implications of becoming a fundholder. In the first place, the fundholding practice receives an annual lump-sum practice management allowance. Second, the practice receives a budget, any savings from which may be retained and used, within reason, at the practice's discretion. However, and possibly most important of all, fundholding status permits substantial freedom of action with respect to resource allocation. Other things being equal, more freedom of action means that the practice is more likely to be able to construct a programme of activities consistent with the partners' personal objectives. These objectives might, of course, be patient centred, although they could include personal financial gain. With respect to the latter, the freedom of use of resources would permit the practice to expand the range of services attracting fee or target incomes.[8] In parallel with these benefits, existing fundholders have also complained of costs, for example, those of administration.[9] However, the fact that the scheme has been voluntary, with fundholders being free to leave, suggests that those seeking or retaining the status expect the benefits to outweigh the costs.

It remains far from evident that the simple injection of resources provided by fundholding can account for our observed changes in prescribing behaviour. The technical apparatus of prescribing cost-containment, such as the use of practice formularies, the receipt of practice-specific prescribing data and computerization, are available to both fundholders and non-fundholders alike, and on equal terms.[2] Rather, the essential difference between fundholding and non-fundholding lies in the structure of incentives. By accepting constrained in place of purely nominal budgets, fundholders are taking on an explicit commitment to ration their resources. The findings reported above are consistent with the view that fourth-wave fundholders might well have possessed the capacity to reduce their

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prescribing costs in earlier years (i.e. there existed a degree of 'slack' in the system), but it is only with the acquisition of fundholding status that they possess the necessary incentives.

These incentives take two forms, the first being procedural. By taking on fundholding status, practices are explicitly committed to abide by a set of criteria of 'good practice', failure to comply leading to the risk of expulsion from a scheme which they elected to join. Amongst the criteria is the requirement to manage the overall budget 'effectively and efficiently'.[10] From the point of view of the monitoring health authority, the assessment of whether or not a practice is being both effective and efficient is problematic. The necessary attributes of 'good general practice' remain to be agreed and, for many potential attributes, objective measures of performance are unavailable. Prescribing behaviour is something of an exception to this rule. 'Good prescribing' is based on a national strategy, supported by extensive data, much of which is centrally collected. As part of their terms of reference, health authorities routinely use such information to select those practices in need of visits from their prescribing advisors.[11] The prescribing behaviour of fundholders is therefore highly visible to the monitoring authority and is therefore an area where a demonstration of competent management is particularly important.

The second, and perhaps more obvious, incentive is that prescribing cost control can mean savings from the budget, which translate directly into discretionary income. In reality, however, the sums of money involved are unlikely to be large. The existing Lincolnshire fundholders in 1993–1994 recorded, on average, an overspend on (rather than savings from) the prescribing budget and the monetary value of the individual surpluses accruing all lay within the range ±£10 000. This is not to say, of course, that, at the margin, positive savings on prescribing (or low deficits) will not be preferred to no savings (or high deficits). This second form of incentive, however, bears some relationship to the first. It is improbable that any given fundholder would risk a prescribing strategy which lowered costs considerably below the norm of the group as a whole. Such a strategy would alert the health authority to the possibility either of patient care being jeopardized or that the existing budget was too generous. In such cases, the deviant practice would risk censure or budget reduction in the future.

Having established that the fourth-wave fundholders faced the incentive to cut, and did indeed cut, costs in their first year, we must now consider the extent to which a continued reduction over time is probable. Here it is instructive to consider the evidence provided by the fundholders in waves 1–3. For this group, it will be recalled, the rate of growth of costs fell over the first three years but rose considerably in the most recent year for which data are presented. The falling growth over the first three years is consistent with the view expressed above, namely, that as practices became fundholding they took immediate steps to control their prescribing costs. As wave 2 practices joined those of wave 1, and as wave 3 joined waves 1 and 2, the rate of growth of prescribing costs for the group as a whole predictably declined. However, for 1994–1995, there was no additional recruitment of new fundholding practices into this group and no change in the structure of incentives. Prescribing cost changes for 1994–1995 thus reflect the steady-state growth for fundholding practices, and the rate of growth is significantly higher than for each of the two previous years (Wilcoxon matched-pairs signed-ranks test at 5 per cent). This finding is consistent with the view that prescribing cost economies amongst practices entering into fundholding may reach a plateau after a relatively short period of time.[12]

Our findings from Lincolnshire may be usefully compared with those from a small-sample study (n=13) longitudinal study of Oxford fundholding practices.[13] The Oxford study also suggested that the cost-reduction effect of fundholding was likely to be brief, most of the reduction occurring in the first year of fundholding. In addition, the data in the Oxford study were consistent with the hypothesis that prospective fundholders 'artificially increased their prescribing costs' during the preparatory year so as to make gains thereafter (p. 1546). As Table 1 has illustrated, the Lincolnshire fourth wave's costs rose both during the preparatory year (1993–1994) and during the previous year (when the intention to become fundholding was declared), although in neither case was the mean difference in growth of NIC per patient for fourth-wave fundholders statistically significantly different from that of the remaining non-fundholders. For the fourth wave, the difference between the growth rates in the preparatory year and during the previous year was insignificant (Wilcoxon test, p=064). It is accordingly difficult to support the 'artificial increase' hypothesis amongst the Lincolnshire practices in aggregate. A similar, negative, conclusion has been reached in a Scottish study.[14] This having been said, two of the Lincolnshire fourth wave practices did increase their prescribing costs by more than 50 per cent in the preparatory year (more than three times the mean increase for the group as a whole) and achieved correspondingly high savings in their first fundholding year. Although not necessarily valid for the fourth-wave group as a whole, therefore, the 'artificial increase' hypothesis might be appropriate for selected practices within that group.

Conclusions

The evidence in our earlier paper suggested that fundholders in the first three waves had already achieved low prescribing costs before fundholding. Thereafter, they contained costs more effectively than did non-fundholders, although, on average, growth remained positive. The results of the present paper support the hypothesis that later recruits to fundholding were both willing and able to reduce prescribing costs in the first year of fundholding, the perceived benefits accompanying the acquisition of fundholding status presumably outweighing the effort that this involved. Thus, an essential point regarding fundholding is that it must be voluntary – practices must elect to join – for it to function as an incentive for prescribing cost

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control. By implication, health authorities anxious to continue recruiting fundholders in the future are likely to be faced with a dilemma. Economists would argue that the reason why non-fundholders have not yet volunteered for fundholding is because, overall, they find the terms unattractive. The obvious way of attracting more volunteers into the scheme would therefore be to make the terms of fundholding more favourable, for example, more generous budgets or more flexible performance monitoring criteria. Unfortunately, the terms of fundholding which would attract more new recruits are exactly those which would weaken the incentives for prescribing cost-containment.

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